

Application No: 10/790,383

Response

Reply to Office Action Dated October 17, 2006

Attorney Docket No: 3926.070

REMARKS

Claims 6-7 and 10-12 are pending in the application. Claims 1-5 and 8-9 have been previously cancelled.

Specification

The amendment filed 6/27/06 is objected to under 35 USC 132(a) because it introduces new matter into the disclosure.

More specifically, the Examiner has stated that the limitation "... laser beam has substantially constant output for both the welding and the thermal treatment ..." is not supported by the original disclosure.

It is noted that this limitation was contained in the preamble portion of the original claim 1 and is also supported by the specification (see, for example, paragraphs [00011] and [00012]).

The Examiner is, therefore, requested to withdraw this objection and consider this limitation.

Claims Rejections – 35 U.S.C. § 103

Claims 6 and 10-12 are rejected under 35 U.S.C. 103(a) as being obvious over Kinsman et al. (US 5,814,784) in view of Baessler et al. (US 5,567,335).

Claim 7 is rejected under 35 U.S.C. 103(a) as being obvious over Kinsman et al. and Baessler et al. and further in view of Totsuka et al. (US 5,303,081).

Claims 6 and 10-12 are rejected under 35 U.S.C. 103(a) as being obvious over Uchiumi (JP 63-43788) in view of Kinsman et al. and Baessler et al.

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Claim 7 is rejected under 35 U.S.C. 103(a) as being obvious over Uchiyama, Kinsman et al. and Baessler et al. and further in view of Totsuka et al.

It is believed that the Examiner did not take into consideration of the limitation "... the laser beam has substantially constant output for both the welding and the thermal treatment ...". Also, the Examiner did not comment on how the references disclose that during thermal treatment the laser energy input is adjusted by increasing the rate of advance.

Kinsman et al. teach splitting a laser beam and using one split laser beam to heat a tool which in turn thermal treats a workpiece that will be welded by the second split laser beam. So Kinsman et al. do not teach at all that welding and heating are done by the same single laser beam as taught by the present invention. Kinsman et al. do not even teach a heating of the workpiece by a laser beam but by a formerly heated tool. Applicants, therefore, believe that the Kinsman et al. reference is not relevant to the present invention.

As correctly stated by the Examiner, Baessler et al. teach defocusing the laser during heating to negate excessive heating. However, the present invention does something totally different, namely increasing the rate of advance.

Also, neither Baessler et al. nor Kinsman et al. teach that the length of the time between heating and welding is defined by a cooling of less than 50%, as recited in claim 6 of the instant application.

Further, neither Baessler et al. nor Kinsman et al. teach that the laser input is defined by a heating of 10°C of the side of the workpiece opposite to the laser beam, as recited in claim 6 of the instant application.

Still further, neither Baessler et al. nor Kinsman et al. teach the substantially constant output for welding and heating. In contrast, Kinsman et al. do not even use a laser beam for

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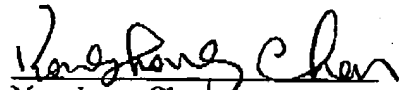
heating and Baessler et al. defocus the laser beam, namely substantially change the output of the laser beam.

As already discussed in the previous responses, Uchiumi only teaches preheating with a defocused laser beam, but not with increased rate of advance of the laser beam. In fact, none of the cited references teaches increasing the rate of advance of the laser beam during heating.

It is accordingly believed to be clear that none of the references, whether taken alone or in any combination, either show or suggest the features of claim 6. Claim 6 is, therefore, believed to be patentable over the art and since all the dependent claims are dependent on claim 6, they are believed to be patentable as well.

Favorable consideration and early issuance of the Notice of Allowance are respectfully requested. Should further issues remain prior to allowance, the Examiner is respectfully requested to contact the undersigned at the indicated telephone number.

Respectfully submitted,



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